



SEQUENCE LISTING

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<120> NOVEL EPITHELIAL TISSUE TARGETING AGENT

<130> 040989/283662

<140> 09/005,318

<141> 1998-01-09

<150> 08/782,481

<151> 1997-01-10

<150> 09/005,167

<151> 1998-01-09

<160> 140

<170> PatentIn Ver. 2.1

<210> 1

<211> 137

<212> PRT

<213> Homo sapiens

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1 5 10 15

Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu Asp
20 25 30

Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg Glu
35 40 45

Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Pro Val Tyr His
50 55 60

Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp
65 70 75 80

Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser
85 90 95

Ala Thr Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Ala
100 105 110

Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr Ala
115 120 125

Leu Thr Pro Asp Ala Cys Tyr Pro Asp
130 135

<210> 2
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 <213> Mus sp.

<400> 2
 Gln Asp Glu Asn Glu Arg Ile Val Val Asp Asn Lys Cys Lys Cys Ala
 1 5 10 15
 Arg Ile Thr Ser Arg Ile Ile Pro Ser Ala Glu Asp Pro Ser Gln Asp
 20 25 30
 Ile Val Glu Arg Asn Val Arg Ile Ile Val Pro Leu Asn Ser Arg Glu
 35 40 45
 Asn Ile Ser Asp Pro Thr Ser Pro Met Arg Thr Lys Pro Val Tyr His
 50 55 60
 Leu Ser Asp Leu Cys Lys Lys Cys Asp Thr Thr Glu Val Glu Leu Glu
 65 70 75 80
 Asp Gln Val Val Thr Ala Ser Gln Ser Asn Ile Cys Asp Ser Asp Ala
 85 90 95
 Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Asn Arg Val
 100 105 110
 Lys Leu Ser Tyr Arg Gly Gln Thr Lys Met Val Glu Thr Ala Leu Thr
 115 120 125
 Pro Asp Ser Cys Tyr Pro Asp
 130 135

<210> 3
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 <212> PRT
 <213> Oryctolagus cuniculus

<400> 3
 Asp Asp Glu Ala Thr Ile Leu Ala Asp Asn Lys Cys Met Cys Thr Arg
 1 5 10 15
 Val Thr Ser Arg Ile Ile Pro Ser Thr Glu Asp Pro Asn Glu Asp Ile
 20 25 30
 Val Glu Arg Asn Ile Arg Ile Val Val Pro Leu Asn Asn Arg Glu Asn
 35 40 45
 Ile Ser Asp Pro Thr Ser Pro Leu Arg Arg Asn Pro Val Tyr His Leu
 50 55 60
 Ser Asp Val Cys Lys Lys Cys Asp Pro Val Glu Val Glu Leu Glu Asp
 65 70 75 80
 Gln Val Val Thr Ala Thr Gln Ser Asn Ile Cys Asn Glu Asp Asp Gly
 85 90 95

Val Pro Glu Thr Cys Tyr Met Tyr Asp Arg Asn Lys Cys Tyr Thr Thr
100 105 110

Met Val Pro Leu Arg Tyr His Gly Glu Thr Lys Met Val Gln Ala Ala
115 120 125

Leu Thr Pro Asp Ser Cys Tyr Pro Asp
130 135

<210> 4
<211> 136
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<213> Bos sp.

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Glu Asp Glu Ser Thr Val Leu Val Asp Asn Lys Cys Gln Cys Val Arg
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Ile Thr Ser Arg Ile Ile Arg Asp Pro Asp Asn Pro Ser Glu Asp Ile
20 25 30

Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Thr Arg Glu Asn
35 40 45

Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Glu Pro Lys Tyr Asn Leu
50 55 60

Ala Asn Leu Cys Lys Lys Cys Asp Pro Thr Glu Ile Glu Leu Asp Asn
65 70 75 80

Gln Val Phe Thr Ala Ser Gln Ser Asn Ile Cys Pro Asp Asp Asp Tyr
85 90 95

Ser Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Thr Leu
100 105 110

Val Pro Ile Thr His Arg Gly Val Thr Arg Met Val Lys Ala Thr Leu
115 120 125

Thr Pro Asp Ser Cys Tyr Pro Asp
130 135

<210> 5
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<213> Rana sp.

<220>
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<222> (47)
<223> Variable amino acid

<220>
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<222> (88)..(89)
<223> Variable amino acid

<220>
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<222> (91)
<223> Variable amino acid

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Ser Ser Arg Phe Val Pro Ser Thr Glu Arg Pro Gly Glu Glu Ile Leu
20 25 30
Glu Arg Asn Ile Gln Ile Thr Ile Pro Thr Ser Ser Arg Met Xaa Ile
35 40 45
Ser Asp Pro Tyr Ser Pro Leu Arg Thr Gln Pro Val Tyr Asn Leu Trp
50 55 60
Asp Ile Cys Gln Lys Cys Asp Pro Val Gln Leu Glu Ile Gly Gly Ile
65 70 75 80
Pro Val Leu Ala Ser Gln Pro Xaa Xaa Ser Xaa Pro Asp Asp Glu Cys
85 90 95
Tyr Thr Thr Glu Val Asn Phe Lys Lys Lys Val Pro Leu Thr Pro Asp
100 105 110
Ser Cys Tyr Glu Tyr Ser Glu
115

<210> 6
<211> 128
<212> PRT
<213> Lumbricus sp.

<400> 6
Asn Lys Cys Met Cys Thr Arg Val Thr Ala Arg Ile Arg Gly Thr Arg
1 5 10 15
Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Tyr Ile Arg Ile Asn Val
20 25 30
Pro Leu Lys Asn Arg Gly Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg
35 40 45
Asn Gln Pro Val Tyr His Leu Ser Pro Ser Cys Lys Lys Cys Asp Pro
50 55 60
Tyr Glu Asp Gly Val Val Thr Ala Thr Glu Thr Asn Ile Cys Tyr Pro
65 70 75 80
Asp Gln Gly Val Pro Gln Ser Cys Arg Asp Tyr Cys Pro Glu Leu Asp

	85		90		95	
Arg Asn Lys Cys Tyr Thr Val Leu Val Pro Pro Gly Tyr Thr Gly Glu						
	100		105		110	
Thr Lys Met Val Gln Asn Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp						
	115		120		125	

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 <213> Homo sapiens

<220>
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 <222> (1)..(414)

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 <222> (1)..(6)

<220>
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 <222> (7)..(414)

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Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys	
-1 1 5 10	
gct cgt att act tct aga atc atc cgt agc tca gag gac cca aat gaa	96
Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu	
15 20 25 30	
gat ata gtc gaa cgt aac atc cgt atc atc gtc cca ctg aat aac cgg	144
Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg	
35 40 45	
gag aat atc tca gat cct aca agt ccg ttg cgc aca cgc ttc gta tac	192
Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr	
50 55 60	
cac ctg tca gat ctg tgt aag aag tgt gat cca aca gag gta gag ctg	240
His Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu	
65 70 75	
gac aat cag ata gtc act gcg act caa agc aac att tgc gat gag gac	288
Asp Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp	
80 85 90	
agc gct aca gaa acc tgc agc acc tac gat agg aac aaa tgc tac acg	336
Ser Ala Thr Glu Thr Cys Ser Thr Tyr Asp Arg Asn Lys Cys Tyr Thr	
95 100 105 110	
gcc gtg gtt ccg ctc gtg tat ggt gga gag aca aaa atg gtg gaa act	384
Ala Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr	

115	120	125	
gcc ctt acg ccc gat gca tgc tat ccg gac tgaattc			421
Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp			
130	135		

<210> 8
 <211> 215
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (1)..(213)

<400> 8			
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Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser			
1	5	10	15
tca gag gac cca aat gaa gat ata gtc gaa cgt aac atc cgt atc atc			96
Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile			
20	25	30	
gtc cca ctg aat aac cgg gag aat atc tca gat cct aca agt ccg ttg			144
Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu			
35	40	45	
cgc aca cgc ttc gta tac cac ctg tca gat ctg tgt aag aag gat gag			192
Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Asp Glu			
50	55	60	
gac agc gct aca gaa acc tgc tg			215
Asp Ser Ala Thr Glu Thr Cys			
65	70		

<210> 9
 <211> 140
 <212> DNA
 <213> Homo sapiens

<400> 9			
ctagaatcat ccgtagctca gaggacccaa atgaagatat agtcgaacgt aacatccgta			60
tcatcgctccc actgaataac cgggagaata tctcagatcc tacaagtccg ttgcgcacac			120
gcttcgtata ccacctgtca			140

<210> 10
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 10
gatcagaagt gcaagtgtgc tcgtattact t 31

<210> 11
<211> 44
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(42)

<400> 11
gat ctg tgt aag aag gat gaa gat tcc gct aca gaa acc tgc tg 44
Asp Leu Cys Lys Lys Asp Glu Asp Ser Ala Thr Glu Thr Cys
1 5 10

<210> 12
<211> 109
<212> DNA
<213> Homo sapiens

<400> 12
gcacctacga taggaacaaa tgctacacgg ccgtgggttcc gctcgtgtat ggtggagaga 60
caaaaatggt ggaaactgcc cttacgcccg atgcatgcta ccctgactg 109

<210> 13
<211> 286
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(282)

<400> 29
gac aac aag tgc aag tgt gct cgt att act tct aga atc atc cgt agc 48
Asp Asn Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
1 5 10 15

tca gag gac cca aat gaa gat ata gtc gaa cgt aac atc cgt atc atc 96
Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
20 25 30

gtc cca ctg aat aac cgg gag aat atc tca gat cct aca agt ccg ttg 144
Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
35 40 45

cgc aca cgc ttc gta tac cac ctg tca gat ctg tgt aag aag tgt gat 192
Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Cys Asp
50 55 60

cca aca gag gta gag ctg gac aat cag ata gtc act gcg act caa agc 240
Pro Thr Glu Val Glu Leu Asp Asn Gln Ile Val Thr Ala Thr Gln Ser

65	70	75	80	
aac att tgc gat gag gac agc gct aca gaa acc tgc tac tga				282
Asn Ile Cys Asp Glu Asp Ser Ala Thr Glu Thr Cys Tyr *				
	85	90		

attc				286
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<210> 14
 <211> 105
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS

<222> (1)..(105)

<400> 14	
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Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp Asn Gln	
1 5 10 15	

ata gtc act gcg act caa agc aac att tgc gat gag gac agc gct aca	96
Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser Ala Thr	
20 25 30	

gaa acc tgc	105
Glu Thr Cys	
35	

<210> 15
 <211> 61
 <212> DNA
 <213> Homo sapiens

<400> 15	
gatcaggaag atgaacgtat tggtctgggt gacaacaagt gcaagtgtgc tcgtattact	60
t	61

<210> 16
 <211> 198
 <212> DNA
 <213> Homo sapiens

<400> 16	
gcgatgacga cgataaggcc caaacggaga cctgtactgt tgcgcctcgt gaacggcaaa	60
actgcggatt cccgggagta acaccctctc agtgcgctaa taaaggctgc tgttttgatg	120
acacggtacg gggcggtccg tgggtgcttct accccaatac aattgacggt ccgcctgaag	180
aagagtgcga gttttaag	198

<210> 17
 <211> 138
 <212> PRT
 <213> Homo sapiens

<400> 17
 Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
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 Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu
 15 20 25 30

 Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg
 35 40 45

 Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr
 50 55 60

 His Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu
 65 70 75

 Asp Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp
 80 85 90

 Ser Ala Thr Glu Thr Cys Ser Thr Tyr Asp Arg Asn Lys Cys Tyr Thr
 95 100 105 110

 Ala Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr
 115 120 125

 Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp
 130 135

<210> 18
 <211> 71
 <212> PRT
 <213> Homo sapiens

<400> 18
 Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
 1 5 10 15

 Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
 20 25 30

 Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
 35 40 45

 Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Asp Glu
 50 55 60

 Asp Ser Ala Thr Glu Thr Cys
 65 70

<210> 19
 <211> 49
 <212> PRT
 <213> Homo sapiens

<400> 19
 Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu Asp Ile Val Glu
 1 5 10 15
 Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg Glu Asn Ile Ser
 20 25 30
 Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr His Leu Ser Asp
 35 40 45
 Leu

<210> 20
 <211> 12
 <212> PRT
 <213> Homo sapiens

<400> 20
 Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg
 1 5 10

<210> 21
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 21
 Asp Leu Cys Lys Lys Asp Glu Asp Ser Ala Thr Glu Thr Cys
 1 5 10

<210> 22
 <211> 36
 <212> PRT
 <213> Homo sapiens

<400> 22
 Ser Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Ala Val Val Pro Leu Val
 1 5 10 15
 Tyr Gly Gly Glu Thr Lys Met Val Glu Thr Ala Leu Thr Pro Asp Ala
 20 25 30
 Cys Tyr Pro Asp
 35

<210> 23
 <211> 93

<212> PRT
<213> Homo sapiens

<400> 23
Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
1 5 10 15
Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
20 25 30
Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
35 40 45
Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Cys Asp
50 55 60
Pro Thr Glu Val Glu Leu Asp Asn Gln Ile Val Thr Ala Thr Gln Ser
65 70 75 80
Asn Ile Cys Asp Glu Asp Ser Ala Thr Glu Thr Cys Tyr
85 90

<210> 24
<211> 35
<212> PRT
<213> Homo sapiens

<400> 24
Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp Asn Gln
1 5 10 15
Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser Ala Thr
20 25 30
Glu Thr Cys
35

<210> 25
<211> 22
<212> PRT
<213> Homo sapiens

<400> 25
Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
1 5 10 15
Ala Arg Ile Thr Ser Arg
20

<210> 26
<211> 66
<212> PRT
<213> Homo sapiens

<400> 26

Cys Ser Asp Asp Asp Asp Lys Ala Gln Thr Glu Thr Cys Thr Val Ala
1 5 10 15

Pro Arg Glu Arg Gln Asn Cys Gly Phe Pro Gly Val Thr Pro Ser Gln
20 25 30

Cys Ala Asn Lys Gly Cys Cys Phe Asp Asp Thr Val Arg Gly Val Pro
35 40 45

Trp Cys Phe Tyr Pro Asn Thr Ile Asp Val Pro Pro Glu Glu Glu Cys
50 55 60

Glu Phe
65

<210> 27

<211> 421

<212> DNA

<213> Homo sapiens

<400> 27

gaattcagtc cggatagcat gcatcgggcg taagggcagt ttccaccatt tttgtctctc 60
caccatacac gagcgggaacc acggccgtgt agcattttgtt cctatcgtag gtgctgcagg 120
tttctgtagc gctgtcctca tcgcaaatgt tgctttgagt cgcagtgact atctgattgt 180
ccagctctac ctctgttgga tcacacttct tacacagatc tgacaggtgg tatacgaagc 240
gtgtgcgcaa cggacttgta ggatctgaga tattctccccg gttattcagt gggacgatga 300
tacggatgtt acgttcgact atatcttcat ttgggtcctc tgagctacgg atgattctag 360
aagtaatacg agcacacttg cacttggtgt caaccagaac aatacgttca tcttcctgat 420
c 421

<210> 28

<211> 219

<212> DNA

<213> Homo sapiens

<400> 28

aattcagcag gtttctgtag cgctgtcctc atccttctta cacagatctg acaggtggta 60
tacgaagcgt gtgcgcaacg gacttgtagg atctgagata ttctcccggg tattcagtg 120
gacgatgata cggatgttac gttcgactat atcttcattt gggtcctctg agctacggat 180
gattctagaa gtaatacgag cacacttgca cttctgatc 219

<210> 29

<211> 140

<212> DNA

<213> Homo sapiens

<400> 29

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cccgggttatt cagtgggacg atgatacgga tggtacgttc gactatatct tcatttgggt 120
cctctgagct acggatgatt 140

<210> 30
 <211> 31
 <212> DNA
 <213> Homo sapiens

<400> 30
 ctagaagtaa tacgagcaca cttgcacttc t 31

<210> 31
 <211> 44
 <212> DNA
 <213> Homo sapiens

<400> 31
 aattcagcag gtttctgtag cggactcttc atccttctta caca 44

<210> 32
 <211> 117
 <212> DNA
 <213> Homo sapiens

<400> 32
 aattcagtca gggtagcatg catcgggcgt aagggcagtt tccaccattt ttgtctctcc 60
 accatacacg agcggaacca cggccgtgta gcatttggtc ctatcgtagg tgctgca 117

<210> 33
 <211> 282
 <212> DNA
 <213> Homo sapiens

<400> 33
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 tatctgattg tccagctcta cctctgttgg atcacacttc ttacacagat ctgacagggtg 120
 gtatacgaag cgtgtgcgca acggacttgt aggatctgag atattctccc ggttattcag 180
 tgggacgatg atacggatgt tacgttcgac tatactctca tttgggtcct ctgagctacg 240
 gatgattcta gaagtaatac gagcacactt gcacttctga tc 282

<210> 34
 <211> 105
 <212> DNA
 <213> Homo sapiens

<400> 34
 gcaggtttct gtagcgctgt cctcatcgca aatgttgctt tgagtcgcag tgactatctg 60
 attgtccagc tctacctg ttggatcaca cttcttacac agatc 105

<210> 35
 <211> 61
 <212> DNA
 <213> Homo sapiens

<400> 35

ctagaagtaa tacgagcaca cttgcacttg ttgtcaacca gaacaatacg ttcattcttcc 60
t 61

<210> 36
<211> 205
<212> DNA
<213> Homo sapiens

<400> 36
aattctttaa actcgcactc ttcttcaggc ggaacgtcaa ttgtattggg gtagaagcac 60
cacggaagcc ccgtaccgtg tcatcaaaac agcagccttt attagcgcac tgagagggtg 120
ttactcccgg gaatccgcag ttttgccgtt cacgaggcgc aacagtacag gtctccggtt 180
gggccttatc gtcgtcatcg ctgca 205

<210> 37
<211> 13
<212> PRT
<213> Homo sapiens

<400> 37
Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys
1 5 10

<210> 38
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Illustrative
peptide

<400> 38
Glu Asn Leu Tyr Phe Gln Ser
1 5

<210> 39
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker peptide

<400> 39
Lys Ala His Lys Val Asp Met Val Gln Tyr Thr
1 5 10

<210> 40
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker peptide

<400> 40
Val Gln Tyr Thr
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<210> 41
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker peptide

<400> 41
Glu Lys Ala Val Ala Asp
1 5

<210> 42
<211> 131
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(78)

<400> 42
atg aaa ttc tta gtc aac gtt gcc ctt ttt atg gtc gta tac att tct 48
Met Lys Phe Leu Val Asn Val Ala Leu Phe Met Val Val Tyr Ile Ser
1 5 10 15

tac atc tat gcg gat ccg agc tcg agt gct ctagatctgc agctggtacc 98
Tyr Ile Tyr Ala Asp Pro Ser Ser Ser Ala
20 25

atggaattcg aagcttggag tcgactctgc tga 131

<210> 43
<211> 26
<212> PRT
<213> Homo sapiens

<400> 43
Met Lys Phe Leu Val Asn Val Ala Leu Phe Met Val Val Tyr Ile Ser
1 5 10 15

Tyr Ile Tyr Ala Asp Pro Ser Ser Ser Ala
20 25

<210> 44
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Intracellular
targeting signal

<400> 44
Lys Asp Glu Leu
1

<210> 45
<211> 16
<212> PRT
<213> Homo sapiens

<400> 45
Ala Ile Gln Asp Pro Arg Leu Phe Ala Glu Glu Lys Ala Val Ala Asp
1 5 10 15

<210> 46
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 46
gatcaggaag atgaacgtat tgttctgggt gacaacaagt gcaagtgtgc tcgtattact 60
t 61

<210> 47
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 47
ctagaagtaa tacgagcaca cttgcacttg ttgtcaacca gaacaatacg ttcattctcc 60
t 61

<210> 48
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 48
 gatcagaagt gcaagtgtgc tcgtattact t 31

<210> 49
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 49
 ctagaagtaa tacgagcaca cttgcacttc t 31

<210> 50
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 50
 gatcaggaag atgaacgtat tggtctgggt gacaacaagt gcaagtccgc tcgtattact 60
 t 61

<210> 51
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 51
 ctagaagtaa tacgagcgga cttgcacttg ttgtcaacca gaacaatagc ttcattcttc 60
 t 61

<210> 52
 <211> 61
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 52
gatcaggaag atgaacgtat tgttctgggt gacaacaagt gcaagggtgc tcgtattact 60
t 61

<210> 53
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 53
ctagaagtaa tacgagcaac cttgcacttg ttgtcaacca gaacaatacg ttcattcttc 60
t 61

<210> 54
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 54
ctagaatcat ccgtagctca gaggacccaa atgaagatat agtcgaa 47

<210> 55
<211> 58
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 55
gatacggatg ttacgttcga ctatatcttc atttgggtcc tctgagctac ggatgatt 58

<210> 56
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 56
cgtaacatcc gtatcatcgt ccactgaat aaccgggaga atatctcag 49

<210> 57
 <211> 49
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <400> 57
 cgtaacatcc gtatcatcgt ccactgaat aaccgggagc acatctcag 49

<210> 58
 <211> 49
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <400> 58
 acggacttgt aggatctgag atattctccc gggtattcag tgggacgat 49

<210> 59
 <211> 49
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <400> 59
 acggacttgt aggatctgag atgtgctccc gggtattcag tgggacgat 49

<210> 60
 <211> 44
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <400> 60
 atcctacaag tccgttgccg acacgcttcg tataccacct gtca 44

<210> 61
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 61
gatctgacag gtggtatacg aagcgtgtgc gca 33

<210> 62
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 62
gatctgtgta agaagtgtga tccaacagag gtagagctgg acaatcagat agtcactgca 60

<210> 63
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 63
gatctgtgta agaaggatga ggacagcgct acagaaacct gctg 44

<210> 64
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 64
aattcagcag gtttctgtag cgctgtcttc atccttctta caca 44

<210> 65
<211> 62
<212> DNA
<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 65
 gatctgtgta agaaggatga ggacagcgct acagaaacct gctacgagaa ggatgagctg 60
 tg 62

<210> 66
 <211> 62
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 66
 aattcacagc tcatccttcg cgtcgcaggt ttctgtagcg ctgtcctcat ccttcttaca 60
 ca 62

<210> 67
 <211> 59
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 67
 gatctgtgta agaagtctga tatcgatgaa gattccgcta cagaaacctg cagcacatg 59

<210> 68
 <211> 59
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 68
 aattcatgtg ctgcagggtt ctgtagcgga atcttcatcg atatcagact tcttacaca 59

<210> 69
 <211> 64
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

oligonucleotide

<400> 69
gatctgtcta agaagtctga tatcgatgaa gattacagat tcttcagact atagctactt 60
ctaa 64

<210> 70
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 70
aatcttcacg gatatcagac ttcttagaca 30

<210> 71
<211> 64
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 71
gatctgggta agaagtctga tatcgatgaa gattaccaat tcttcagact atagctactt 60
ctaa 64

<210> 72
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 72
aatcttcacg gatatcagac ttcttaacca 30

<210> 73
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 73
attgtccagc tctacctctg ttggatcaca cttcttacac a 41

<210> 74
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 74
actcaaagca acatttgcca tgaggacagc gctacagaaa cctgca 46

<210> 75
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 75
ggtttctgta gcgctctgct catcgcaaat gttgctttga gtcgcagtga ctatctg 57

<210> 76
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 76
gcacctacga taggaacaaa tgctacacgg ccgtggttcc gtcgctgtat ggtggagag 59

<210> 77
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 77
gagcggaacc acggccgtgt agcatttggt cctatcgtag gtgctgca 48

<210> 78

<211> 50
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <400> 78
 acaaaaaatgg tggaaactgc ccttacgccc gatgcatgct atccggactg 50

 <210> 79
 <211> 69
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <400> 79
 aattcagtcc ggatagcatg catcgggcgt aagggcagtt tccaccatTT ttgtctctcc 60
 accatacac 69

 <210> 80
 <211> 62
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <400> 80
 acaaaaaatgg tggaaactgc ccttacgccc gatgcatgct atccggacaa ggatgaattg 60
 tg 62

 <210> 81
 <211> 81
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

 <400> 81
 aattcacaat tcacCcttgt ccggatagca tgcacTgggc gtaagggcag tttccaccat 60
 ttttgtctct ccaccataca c 81

 <210> 82
 <211> 88
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 82

gatcagggtcg ctgccatcca agacccgagg ctgttcgccg aagagaaggc cgtcgctgac 60
tccaagtgcg agtgtgctcg tattactt 88

<210> 83

<211> 88

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 83

ctagaagtaa tacgagcaca cttgcacttg gagtcagcga cggccttctc ttcggcgaac 60
agcctcgggt cttggatggc agcgacct 88

<210> 84

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 84

tggtacgaat tccaggttsma rctgcagsag tcrq 34

<210> 85

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 85

acagatatcg ggatttctcg cagactc 27

<210> 86

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 86
 acagaatatc gtcaacacct tcccaccc 28

<210> 87
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 87
 acaaagcttt tatttaccgc acagacggtc 30

<210> 88
 <211> 35
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 88
 gtccccctc gagcgayaty swgmtsaccc artct 35

<210> 89
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 89
 aactgcagc agttggtgca gcatcagc 28

<210> 90
 <211> 53
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 90
 ctgcaggaag cggaagcggg ggaagcggaa gcggaggaag cggaagcggaa ttc 53

<210> 91
 <211> 47
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker complement

<400> 91

ccttcgcctt cgcttccttc gccttcgcct ccttcgcctt cgcttaa

47

<210> 92

<211> 76

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Signal peptide

<400> 92

acaggatcca tggaaacccc agcgcagctt ctcttcctcc tgctactctg gctcccaaga 60
taccaccgga cccggg 76

<210> 93

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 93

tggtacagat ctaggtsmar ctgcagsagt crg

33

<210> 94

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 94

acaggaattc aattttcttg tccacctt

28

<210> 95

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 95

gttctagaga yatyswgmts acccartct

29

<210> 96
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 96
acaccgcggc agttggtgca gcatcagc 28

<210> 97
<211> 75
<212> DNA
<213> Homo sapiens

<400> 97
acaggatcca tggaaacccc agcgcagctt ctcttctctc tgctactctg gctcccagat 60
accaccggaa gatct 75

<210> 98
<211> 75
<212> DNA
<213> Homo sapiens

<400> 98
acaactagta tggaaacccc agcgcagctt ctcttctctc tgctactctg gctcccagat 60
accaccggat ctaga 75

<210> 99
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker peptide

<400> 99
Val Ala Val Gln Ser Ala Gly Thr Pro Ala Ser Gly Ser
1 5 10

<210> 100
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Nuclear
targeting sequence

<400> 100
Cys Ala Ala Pro Lys Lys Lys Arg Lys Val
1 5 10

<210> 101
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Nuclear
targeting sequence

<400> 101
Cys Ala Ala Lys Arg Pro Pro Ala Ala Ile Lys Lys Ala Ala Ala Gly
1 5 10 15

Gln Ala Lys Lys Lys Lys
20

<210> 102
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Intracellular
targeting signal

<400> 102
His Asp Glu Leu
1

<210> 103
<211> 77
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 103
gcgatgacga cgataaggcc caaacggaga cctgtactgt tgcgcctcgt gaacggcaaa 60
actgcggatt cccggga 77

<210> 104
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

oligonucleotide

<400> 104
gttttgccgt tcacgaggcg caacagtaca ggtctccgtt tgggccttat cgtcgtcatc 60
gctgca 66

<210> 105
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 105
gtaacaccct ctcaagtgcgc taataaaggc tgctgttttg atgacacggt acggggcggt 60
ccgtggtgct tc 72

<210> 106
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 106
gccccgtacc gtgtcatcaa aacagcagcc ttatttagcg cactgagagg gtgttactcc 60
cggaatccg ca 72

<210> 107
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 107
taccccaata caattgacgt tccgcctgaa gaagagtgcg agttttaag 49

<210> 108
<211> 68
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 108

aattcttaaa actcgactc ttcttcaggc ggcaagtcaa ttgtattggg gtagaagcac 60
cacggaac 68

<210> 109

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker peptide

<400> 109

Pro Leu Gly Ile Ile Gly Gly
1 5

<210> 110

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker peptide

<400> 110

Ile Ile Gly Gly
1

<210> 111

<211> 30

<212> PRT

<213> Homo sapiens

<400> 111

Val Arg Asp Gln Ala Gln Glu Asn Arg Ala Ser Gly Asp Ala Gly Ser
1 5 10 15

Ala Asp Gly Gln Ser Arg Ser Ser Ser Lys Val Leu Phe
20 25 30

<210> 112

<211> 25

<212> PRT

<213> Homo sapiens

<400> 112

Val Pro Ser Thr Pro Pro Thr Pro Ser Pro Ser Thr Pro Pro Thr Pro
1 5 10 15

Ser Pro Ser Cys Cys His Pro Arg Leu
20 25

<210> 113
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Illustrative peptide

<400> 113
 Glu Gln Lys Leu Ile Ser Glu Asp Leu
 1 5

<210> 114
 <211> 68
 <212> PRT
 <213> Homo sapiens

<400> 114
 Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp
 1 5 10 15
 Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu
 20 25 30
 Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg
 35 40 45
 Pro Val Tyr His Leu Ser Asp Leu Cys Lys Lys Asp Glu Asp Ser Ala
 50 55 60
 Thr Glu Thr Cys
 65

<210> 115
 <211> 12
 <212> PRT
 <213> Homo sapiens

<400> 115
 Cys Lys Cys Ala Arg Asp Ser Asp Ala Glu Thr Cys
 1 5 10

<210> 116
 <211> 69
 <212> PRT
 <213> Homo sapiens

<400> 116
 Cys Met Cys Thr Arg Val Thr Ser Arg Ile Ile Pro Ser Thr Glu Asp
 1 5 10 15
 Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Val Val Pro Leu
 20 25 30
 Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Arg Asn
 35 40 45
 Pro Val Tyr His Leu Ser Asp Val Cys Lys Lys Asn Glu Asp Asp Gly

50
Val Pro Glu Thr Cys
65

55

60

<210> 117
<211> 68
<212> PRT
<213> Homo sapiens

<400> 117
Cys Gln Cys Val Arg Ile Thr Ser Arg Ile Ile Arg Asp Pro Asp Asn
1 5 10 15
Pro Ser Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu
20 25 30
Asn Thr Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Glu
35 40 45
Pro Lys Tyr Asn Leu Ala Asn Leu Cys Lys Lys Pro Asp Asp Asp Tyr
50 55 60
Ser Glu Thr Cys
65

<210> 118
<211> 67
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> 37, 60, 62
<223> Xaa = Any Amino Acid

<400> 118
Cys Lys Cys Val Lys Ile Ser Ser Arg Phe Val Pro Ser Thr Glu Arg
1 5 10 15
Pro Gly Glu Glu Ile Leu Glu Arg Asn Ile Gln Ile Thr Ile Pro Thr
20 25 30
Ser Ser Arg Met Xaa Ile Ser Asp Pro Tyr Ser Pro Leu Arg Thr Gln
35 40 45
Pro Val Tyr Asn Leu Trp Asp Ile Cys Gln Lys Xaa Ser Xaa Pro Asp
50 55 60
Asp Glu Cys
65

<210> 119
<211> 69
<212> PRT
<213> Homo sapiens

<400> 119
Cys Met Cys Thr Arg Val Thr Ala Arg Ile Arg Gly Thr Arg Glu Asp
1 5 10 15
Pro Asn Glu Asp Ile Val Glu Arg Tyr Ile Arg Ile Asn Val Pro Leu
20 25 30
Lys Asn Arg Gly Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Asn Gln

35 40 45
 Pro Val Tyr His Leu Ser Pro Ser Cys Lys Lys Tyr Pro Asp Gln Gly
 50 55 60
 Val Pro Gln Ser Cys
 65

<210> 120
 <211> 87
 <212> PRT
 <213> Homo sapiens

<400> 120
 Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Pro Ser Ala Glu Asp
 1 5 10 15
 Pro Ser Gln Asp Ile Val Glu Arg Asn Val Arg Ile Ile Val Pro Leu
 20 25 30
 Asn Ser Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Met Arg Thr Lys
 35 40 45
 Pro Val Tyr His Leu Ser Asp Leu Cys Lys Lys Cys Asp Thr Thr Glu
 50 55 60
 Val Glu Leu Glu Asp Gln Val Val Thr Ala Ser Gln Ser Asn Ile Cys
 65 70 75 80
 Asp Ser Asp Ala Glu Thr Cys
 85

<210> 121
 <211> 90
 <212> PRT
 <213> Homo sapiens

<400> 121
 Cys Met Cys Thr Arg Val Thr Ser Arg Ile Ile Pro Ser Thr Glu Asp
 1 5 10 15
 Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Val Val Pro Leu
 20 25 30
 Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Arg Asn
 35 40 45
 Pro Val Tyr His Leu Ser Asp Val Cys Lys Lys Cys Asp Pro Val Glu
 50 55 60
 Val Glu Leu Glu Asp Gln Val Val Thr Ala Thr Gln Ser Asn Ile Cys
 65 70 75 80
 Asn Glu Asp Asp Gly Val Pro Glu Thr Cys
 85 90

<210> 122
 <211> 89
 <212> PRT
 <213> Homo sapiens

<400> 122
 Cys Gln Cys Val Arg Ile Thr Ser Arg Ile Ile Arg Asp Pro Asp Asn
 1 5 10 15
 Pro Ser Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu
 20 25 30

Asn	Thr	Arg	Glu	Asn	Ile	Ser	Asp	Pro	Thr	Ser	Pro	Leu	Arg	Thr	Glu
		35					40					45			
Pro	Lys	Tyr	Asn	Leu	Ala	Asn	Leu	Cys	Lys	Lys	Cys	Asp	Pro	Thr	Glu
	50					55					60				
Ile	Glu	Leu	Asp	Asn	Gln	Val	Phe	Thr	Ala	Ser	Gln	Ser	Asn	Ile	Cys
65					70					75					80
Pro	Asp	Asp	Asp	Tyr	Ser	Glu	Thr	Cys							
					85										

<210> 123
 <211> 85
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> 37, 82, 83, 85
 <223> Xaa = Any Amino Acid

Cys	Lys	Cys	Val	Lys	Ile	Ser	Ser	Arg	Phe	Val	Pro	Ser	Thr	Glu	Arg
1				5					10					15	
Pro	Gly	Glu	Glu	Ile	Leu	Glu	Arg	Asn	Ile	Gln	Ile	Thr	Ile	Pro	Thr
			20					25					30		
Ser	Ser	Arg	Met	Xaa	Ile	Ser	Asp	Pro	Tyr	Ser	Pro	Leu	Arg	Thr	Gln
		35					40					45			
Pro	Val	Tyr	Asn	Leu	Trp	Asp	Ile	Cys	Gln	Lys	Cys	Asp	Pro	Val	Gln
	50					55					60				
Leu	Glu	Ile	Gly	Gly	Ile	Pro	Leu	Leu	Ala	Ser	Gln	Pro	Xaa	Xaa	Ser
65					70					75					80
Xaa	Pro	Asp	Asp	Glu											
					85										

<210> 124
 <211> 84
 <212> PRT
 <213> Homo sapiens

Cys	Thr	Arg	Val	Thr	Ala	Arg	Ile	Arg	Gly	Thr	Arg	Glu	Asp	Pro	Asn
1				5					10					15	
Glu	Asp	Ile	Val	Glu	Arg	Tyr	Ile	Arg	Ile	Asn	Val	Pro	Leu	Lys	Asn
			20					25					30		
Arg	Gly	Asn	Ile	Ser	Asp	Pro	Thr	Ser	Pro	Leu	Arg	Asn	Gln	Pro	Val
		35					40					45			
Tyr	His	Leu	Ser	Pro	Ser	Cys	Lys	Lys	Cys	Asp	Pro	Tyr	Glu	Asp	Gly
	50					55					60				
Val	Val	Thr	Ala	Thr	Glu	Thr	Asn	Ile	Cys	Tyr	Pro	Asp	Gln	Gly	Val
65					70					75					80
Pro	Gln	Ser	Cys												

<210> 125
 <211> 12

<212> PRT
 <213> Homo sapiens

 <400> 125
 Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys
 1 5 10

 <210> 126
 <211> 12
 <212> PRT
 <213> Homo sapiens

 <400> 126
 Gln Asp Glu Asn Glu Arg Ile Val Val Asp Asn Lys
 1 5 10

 <210> 127
 <211> 11
 <212> PRT
 <213> Homo sapiens

 <400> 127
 Asp Asp Glu Ala Thr Ile Leu Ala Asp Asn Lys
 1 5 10

 <210> 128
 <211> 11
 <212> PRT
 <213> Homo sapiens

 <400> 128
 Asp Asp Glu Ala Thr Ile Leu Ala Asp Asn Lys
 1 5 10

 <210> 129
 <211> 10
 <212> PRT
 <213> Homo sapiens

 <400> 129
 Glu Gln Glu Tyr Ile Leu Ala Asn Asn Lys
 1 5 10

 <210> 130
 <211> 7
 <212> PRT
 <213> Homo sapiens

 <400> 130
 Tyr Thr Tyr Asp Arg Asn Lys
 1 5

<210> 131
<211> 7
<212> PRT
<213> Homo sapiens

<400> 131
Tyr Thr Tyr Asp Arg Asn Lys
1 5

<210> 132
<211> 7
<212> PRT
<213> Homo sapiens

<400> 132
Tyr Met Tyr Asp Arg Asn Lys
1 5

<210> 133
<211> 7
<212> PRT
<213> Homo sapiens

<400> 133
Tyr Thr Tyr Asp Arg Asn Lys
1 5

<210> 134
<211> 11
<212> PRT
<213> Homo sapiens

<400> 134
Arg Asp Tyr Cys Pro Glu Leu Asp Arg Asn Lys
1 5 10

<210> 135
<211> 29
<212> PRT
<213> Homo sapiens

<400> 135
Cys Tyr Thr Ala Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met
1 5 10 15
Val Glu Thr Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp
20 25

<210> 136
<211> 29
<212> PRT
<213> Homo sapiens

<400> 136
 Cys Tyr Thr Asn Arg Val Lys Leu Ser Tyr Arg Gly Gln Thr Lys Met
 1 5 10 15
 Val Glu Thr Ala Leu Thr Pro Asp Ser Cys Tyr Pro Asp
 20 25

<210> 137
 <211> 29
 <212> PRT
 <213> Homo sapiens

<400> 137
 Cys Tyr Thr Thr Met Val Pro Leu Arg Tyr His Gly Glu Thr Lys Met
 1 5 10 15
 Val Gln Ala Ala Leu Thr Pro Asp Ser Cys Tyr Pro Asp
 20 25

<210> 138
 <211> 29
 <212> PRT
 <213> Homo sapiens

<400> 138
 Cys Tyr Thr Thr Leu Val Pro Ile Thr His Arg Gly Val Thr Arg Met
 1 5 10 15
 Val Lys Ala Thr Leu Thr Pro Asp Ser Cys Tyr Pro Asp
 20 25

<210> 139
 <211> 24
 <212> PRT
 <213> Homo sapiens

<400> 139
 Cys Tyr Thr Thr Glu Val Asn Phe Lys Lys Lys Val Pro Leu Thr Pro
 1 5 10 15
 Asp Ser Cys Tyr Glu Tyr Ser Glu
 20

<210> 140
 <211> 29
 <212> PRT
 <213> Homo sapiens

<400> 140
 Cys Tyr Thr Val Leu Val Pro Pro Gly Tyr Thr Gly Glu Thr Lys Met
 1 5 10 15
 Val Gln Asn Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp
 20 25